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THE SOUTHEASTERN VEGETABLE PROCESSING INDUSTRY:

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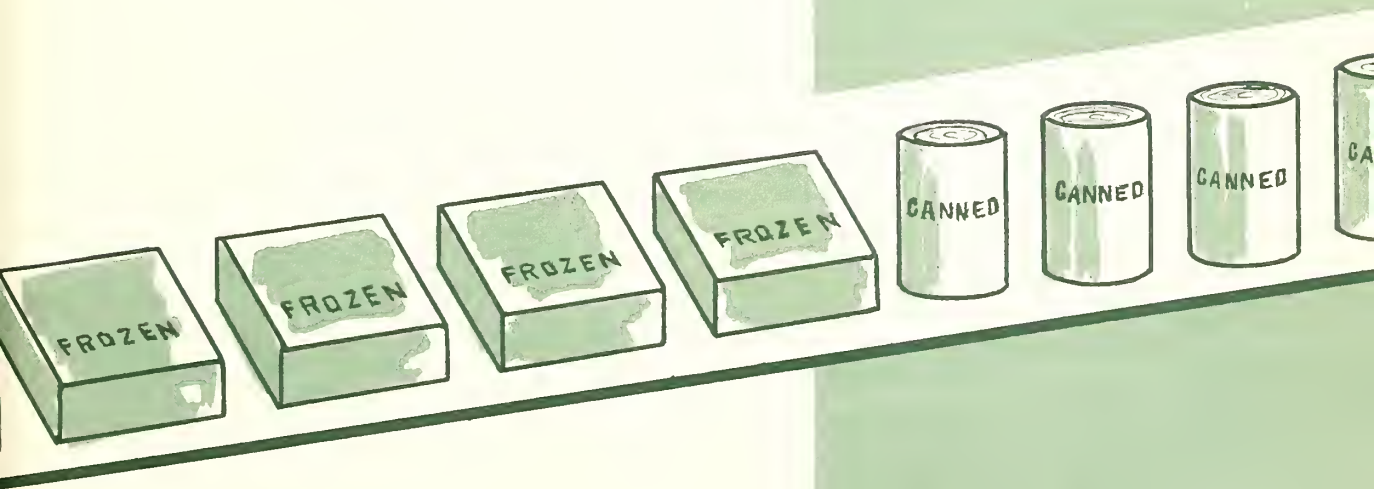

UNITED STATES DEPARTMENT OF AGRICULTURE • ECONOMIC RESEARCH SERVICE
MARKETING ECONOMICS DIVISION In cooperation with THE DEPARTMENT OF
AGRICULTURAL ECONOMICS • GEORGIA EXPERIMENT STATION • EXPERIMENT, GEORGIA

PREFACE

This is the third report on the southeastern vegetable processing industry. It contains information on the methods of selling canned and frozen vegetables, the areas in which they are sold, labeling practices, and a discussion of the problems encountered by processors in the region. Two previous reports dealt with (1) the location and number of processing plants in the Southeast, and (2) the areas and methods of raw product procurement for southeastern vegetable processors.

The research on which these reports are based was conducted cooperatively by the Marketing Economics Division, Economic Research Service, U. S. Department of Agriculture, and the Department of Agricultural Economics, Georgia Experiment Station. This is a contributing project to Southern Regional Marketing Project SM-8, "Evaluation of Alternative Vegetable Marketing Organizations and Handling Methods."

The study was carried out under the general supervision of Dr. N. M. Penny, Head, Department of Agricultural Economics, Georgia Experiment Station, and Loyd C. Martin, Head, Horticultural Crops Section, Marketing Economics Division, Economic Research Service. The authors acknowledge the cooperation and support of the vegetable processors who made this study possible by contributing the information requested. Mrs. Ula Vickers, National Canners Association, Washington, D. C., and Mr. E. J. Webster, Jr., National Association of Frozen Food Packers, Washington, D. C., were very helpful in carrying out the study.

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January 1963

SUMMARY

The purpose of this study is to evaluate processing as a market outlet for vegetables produced in the Southeast. The survey of the vegetable processing industry was conducted in the spring of 1961 in Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee. Information on their 1960 operations was supplied by 61 firms operating 70 processing plants. Only plants that processed fresh vegetables in the 1960 season were included in the survey.

The practice of packing vegetables under a variety of different labels is prevalent among southeastern processors. A large number of national processing firms, retail grocery chains, wholesale grocery distributors, and retail store cooperatives have labeling contracts with vegetable processors in the Southeast. Most processors indicated that the cost of packing was the same for all labels. Processors packed 73 percent of the canned and 52 percent of the frozen vegetables under their own labels.

Most of the 1960 southeastern vegetable pack was sold through brokers or commission agents. The next most important sales agency was the parent company of processing plants. The largest part of both canned and frozen vegetables packed by plants in the Southeast was sold in the Southeast. The Northeast, East North Central, and South Central regions were important markets but only a small part of the pack was shipped to the more distant Western regions.

Wholesalers and retail chainstores were the largest buyers of canned and frozen vegetables packed in the plants surveyed. Independent food retailers and institutions made few direct purchases from processors. National and southeastern regional retail food chains provided important outlets for vegetables processed in the Southeast.

Processors indicated that their most severe management problem in 1960 was the inadequate supply of high quality raw vegetables for processing. Problems in marketing finished product were second in importance. Price competition from other processors selling the finished product, and the holding of processed vegetable inventories were also considered major marketing problems. Financing was an important problem to 56 percent of the processors in the Southeast. The most commonly mentioned causes of financial difficulties were the necessity for holding inventories of processed vegetables and the highly seasonal requirements for operating capital. Of all problems encountered by processors, labor was the least difficult. The most severe labor problem noted was that of keeping key and full-time employees fully employed.

Low yields per acre of many vegetables are one of the South's great competitive disadvantages in the processing industry. Other apparent deterrents to processing are the inefficiencies resulting from low-volume and part-time seasonal operation of processing plants and the dominance of production for fresh markets. Processors rarely can compete with fresh market prices in buying raw product where favorable opportunities for fresh market exist.

Despite these competitive disadvantages, several strong points in the industry could foster future economic growth. Among these are the predominance of the South as a supplier of many vegetables and rapid southern population expansion.

THE SOUTHEASTERN VEGETABLE PROCESSING INDUSTRY:

Marketing Practices and Management Problems, 1960

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INTRODUCTION

Vegetable processing is a relatively small industry in the Southern States, (tables 1 and 2). Fresh markets are the dominant outlets for most vegetables produced in the region. Over 80 percent of southern vegetables are produced for fresh market and less than 20 percent for processing. Total vegetable production in the Southeast declined 12 percent between 1955 and 1961 while acreage harvested was reduced 20 percent. 1/ The proportions produced for fresh market and for processing remained fairly constant over this period.

This decline in the production of vegetables in the Southeast has concerned those interested in the southern vegetable industry and the progress of southern agriculture. Perhaps the greatest concern has been among those individuals and agencies promoting programs for economic development, a matter of current interest in most Southern States.

It has been suggested that the economies of many rural areas could be greatly enhanced by developing a more vigorous vegetable processing industry. Some leaders envision, and have advocated, that many communities could profit by establishing small canning plants to be supplied by expanded local vegetable production. Such plants, they reason, would stimulate local economies through increased farm income and nonfarm employment opportunities.

But what are the possibilities for economic survival of such firms? Abandoned processing plants left idle as a result of insufficient planning, inadequate information, and hasty action are detrimental to economic development. Much additional information is needed on the conditions under which an expanded vegetable processing industry might reasonably expect to survive in the Southeast.

1/ U. S. Statistical Reporting Service. Vegetables for Fresh Market, Statis. Bul. 300, and Vegetables -- Fresh Market, Annual Summary, 1961.

U. S. Statistical Reporting Service. Vegetables for Processing, Statis. Bul. 210, and Vegetables -- Processing, Annual Summary, 1961.

Table 1.--Pack of selected canned vegetables, Southeastern States and United States, 1960

Vegetable	Southeast 1/	United States 2/	Southeast as a percentage of United States
	1,000 cases	1,000 cases	Percent
Beans, green	3,248	33,154	9.7
Beans, lima	3/	3,754	--
Corn, sweet	3/	35,276	--
Okra	265	663	40.0
Peas, field 4/	602	2,082	28.9
Peas, green	0	28,714	--
Pimientos	833	904	92.1
Potatoes	585	4,178	14.0
Potatoes, sweet	898	6,942	12.9
Pumpkin and squash	185	4,973	3.7
Sourkraut	502	14,528	3.5
Spinach	165	7,797	2.0
Other greens	542	2,946	18.4
Tomatoes	1,703	30,991	5.5
Other vegetables	1,146	156,933	0.7
Total or average	10,674	333,835	3.2

1/ Williams and Allen. The Southeastern Vegetable Processing Industry: Location and Number of Plants. (Cited in footnote 2, page 4).
2/ U. S. Department of Agriculture, Economic Research Service. Vegetable Situation. TVS-145, July 1962. P. 38.
3/ Data not reported, as figures would reveal individual plant operations.
4/ Includes all types of "southern" peas.

Table 2.--Pack of selected frozen vegetables, Southeastern States and United States, 1960

Vegetable	Southeast 1/	United States 2/	Southeast as a percentage of United States
	1,000 pounds	1,000 pounds	Percent
Beans, green	17,945	159,689	11.2
Beans, lima	5,368	147,557	3.6
Corn, sweet	3/	141,820	--
Kale	2,958	4,547	65.1
Okra	14,934	17,954	83.2
Peas, field 4/	16,121	16,678	96.7
Pumpkin and squash	4,710	23,447	20.1
Spinach	4,753	118,595	4.0
Turnip greens	13,642	17,150	79.5
Other vegetables	15,742	1,311,184	1.2
Total or average	96,173	1,958,621	4.9

1/ Williams and Allen. The Southeastern Vegetable Processing Industry: Location and Number of Plants. (Cited in footnote 2, page 4.)
2/ Vegetable Situation, TVS-145, p. 39. (Cited in table 1, footnote 2.)
3/ Small amount. Data not reported, as figures would reveal individual plant operations.
4/ Includes all types of "southern" peas.

The Problem

The market for many vegetables processed in the Southeast is generally considered limited primarily to southern consumers. This limitation is most apparent in turnip greens, collards, field peas, and to a degree, okra. Other vegetables, such as green beans, tomatoes, pimientos, and potatoes are more widely accepted in the national market. However, southern processors compete with larger scale, highly specialized processing firms and producing areas in the national market.

The economic survival and possible expansion of the processing industry in the Southeast depend largely on maintaining and improving its competitive position relative to other regions with which its markets are shared. Industry-wide knowledge of the market areas and methods of marketing the finished product is considered essential to future market development and expansion.

Source of Data

This is the third in a series of reports on the southeastern vegetable processing industry. 2/ Information presented in these reports was obtained in a survey of fresh vegetable canners and freezers in Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee. 3/ Included in the survey, which was completed in the summer of 1961, were 61 firms that operated 70 canning and freezing plants in 1960. Data were obtained for the calendar year 1960 except in a few plants for which data were reported for the 1960-61 season.

All plants known to have canned or frozen fresh vegetables in 1960 were included in the survey. Firms which processed only soup, juice, condiments, relish, pickle, and fruit, and firms in other States that procured their raw product supplies in the 7-State area were excluded. No attempt was made to include plants which specialized in the processing of sweetpotatoes, onions, and rutabagas. Information presented in this study on these commodities represents only the volume processed as a part of multiple-product operations.

Definition of Terms

Cases, as used in this report, are equivalent to 24 No. 303 cans. Pounds of frozen vegetables are in terms of finished product.

In the analysis of data on size of canning firm, size stratification was based on the number of cases of vegetables packed. Small firms were those packing less than 50,000 cases; medium firms packed 50,000 to 199,999 cases; large firms packed 200,000 or more cases. Size stratification was by firms rather than individual plants since marketing responsibility lies generally with the firm whether it controls

2/ Williams, F. W., and Allen, M. B. The Southeastern Vegetable Processing Industry: Location and Number of Plants -- Composition, Volume, and Value of Pack, 1960. U. S. Dept. Agr. Mktg., Res. Rpt. 527. U. S. Dept. Agr., Econ. Res. Serv. in cooperation with Ga. Expt. Sta. Feb. 1962, 26 pp.

Allen, M. B., and Williams, F. W. The Southeastern Vegetable Processing Industry: Raw Product Procurement, 1960. U. S. Dept. Agr., Mktg. Res. Rpt. 560. U. S. Dept. Agr., Econ. Res. Serv. in cooperation with Ga. Expt. Sta. Aug. 1962, 11 pp..

3/ For the location and number of plants in each State, see Williams and Allen, Mktg. Res. Rpt. 527 (cited in footnote 2).

one or more plants. The number of freezing plants included in the study was too small to analyze the relationship of firm size to marketing practices.

VOLUME AND VALUE OF 1960 PACK

Canners in the 7-State area packed approximately 11 million cases of vegetables; estimated wholesale value at the plant was $32 million. Freezers packed 96 million pounds of frozen vegetables valued at $15 million (table 3).

Green beans, tomatoes, sweetpotatoes, and pimientos constituted 64 percent of the volume and 69 percent of the value of the vegetable pack. A more detailed analysis of the volume and value of the 1960 processed vegetable pack is presented in an earlier report. 4/

LABELING PRACTICES

Southeastern processors pack vegetables under a variety of labels. Many national processing firms, retail grocery chains, wholesale distributors, and retail store cooperatives have labeling contracts with processors in the Southeast. The most common practice is for the processor to allow the buyer a credit for the labels, which the buyer generally ships in advance to the processor.

Only 4 processors reported that packing under other labels was more costly than packing under the firms' own labels. The higher cost resulted from the necessity of placing sealed cans in storage without labels and later removing cans from storage for labeling. The remaining 66 processors indicated that costs were the same regardless of labels used.

In 10 of the 70 plants all of the 1960 output was packed under their private brand labels. The other 60 plants reported that from 1 percent to 93 percent of their pack was under buyers' labels. Processors packed 73 percent of their canned vegetables under their own private labels and 52 percent of the frozen vegetables (table 4). Figure 1 shows the type of firms for which canned and frozen vegetables were labeled.

Southeastern processors' practice of packing vegetables under buyers' labels has important economic implications for the industry. Generally, the private brands of southeastern processors are not as widely recognized and accepted as national brands. Processors effectively shift much of the responsibility for marketing their products to the sales and distribution organizations of other firms by packing under labels widely advertised and accepted on national markets. This eliminates a portion of marketing costs which these processors would otherwise bear. Processors can also allocate overhead costs to a larger number of production units and possibly reduce total costs per unit of output by increasing their volume of output. This is a mutually beneficial practice. Few national retail chains, distributors, and processors handle a sufficient volume of southeastern processed vegetables to justify the establishment of subsidiary processing plants in the region. But these national firms require many vegetables processed in the region to have a complete line of vegetables in their distribution areas. It is economically feasible for such firms to rely on

4/ Williams and Allen. The Southeastern Vegetable Processing Industry: Location and Number of Plants -- Composition, Volume, and Value of Pack, 1960. Cited in footnote 2.

Table 3.--Volume and wholesale value of specified canned and frozen vegetables packed by 70 plants, 7 Southeastern States, 1960

Product	Canned		Frozen		Total value, canned and frozen
	Volume	Value	Volume	Value	
	1,000 cases	1,000 dollars	1,000 pounds	1,000 dollars	1,000 dollars
Beans:					
Green	3,248	8,038	17,945	3,121	11,159
Green, and potatoes	137	239	--	--	239
Lima	1/	1/	5,368	1,096	1,096
Collards	67	120	5,379	637	757
Corn	1/	1/	1/	1/	1/
Greens:					
Mixed	1/	1/	--	--	1/
Mustard	80	141	3,764	418	559
Spinach	165	340	4,753	579	919
Turnip	462	651	10,119	1,155	1,806
Turnip with roots	--	--	3,522	408	408
Kale	1/	1/	2,958	290	290
Kraut and kraut juice	502	1,255	--	--	1,255
Okra	93	245	14,934	2,342	2,587
Okra, corn, and tomatoes	34	127	--	--	127
Okra and tomatoes	138	492	--	--	492
Peas:					
Blackeye	39	108	10,653	1,840	1,948
Field	563	1,976	5,468	1,118	3,094
Pepper:					
Pimiento	833	7,154	--	--	7,154
Sweet 2/	519	1,787	1/	1/	1,787
Potatoes:					
Irish	585	1,106	1/	1/	1,106
Sweet	898	2,252	1/	1/	2,252
Squash	184	517	4,710	678	1,195
Tomatoes and tomato extracts	1,703	4,238	--	--	4,238
Other 3/	424	1,161	6,600	1,283	2,444
Total	10,674	31,947	96,173	14,965	46,912

1/ Data not reported, as figures would reveal individual plant operations.

2/ Also includes bell and green peppers.

3/ Includes canned lima beans, corn, mixed greens, kale, and rutabagas and frozen broccoli, cauliflower, corn, eggplant, onions, Irish potatoes, sweet peppers, and sweetpotatoes.

Table 4.--Volume of vegetable pack put up under processors' private labels and under labels of other firms, 70 plants, 7 Southeastern States, by States, 1960

State	Canners				Freezers			
	Own labels		Other labels		Own labels		Other labels	
	1,000 cases	Percent	1,000 cases	Percent	1,000 pounds	Percent	1,000 pounds	Percent
Florida	1,628	70	698	30	1/	55	1/	45
Georgia	1,543	73	561	27	17,907	71	7,428	29
North Carolina	1,207	83	247	17	--	--	--	--
Tennessee	2,473	82	537	18	25,295	44	31,851	56
Alabama, Mississippi, and South Carolina 2/	901	52	848	48	--	--	--	--
7 States	7,752	73	2,891	27	43,202	3/52	39,279	3/48

1/ Data not reported as figures would reveal individual plant operations.
2/ Data grouped to avoid revealing individual plant operations.
3/ Percentages include Florida pack, total pounds packed does not.

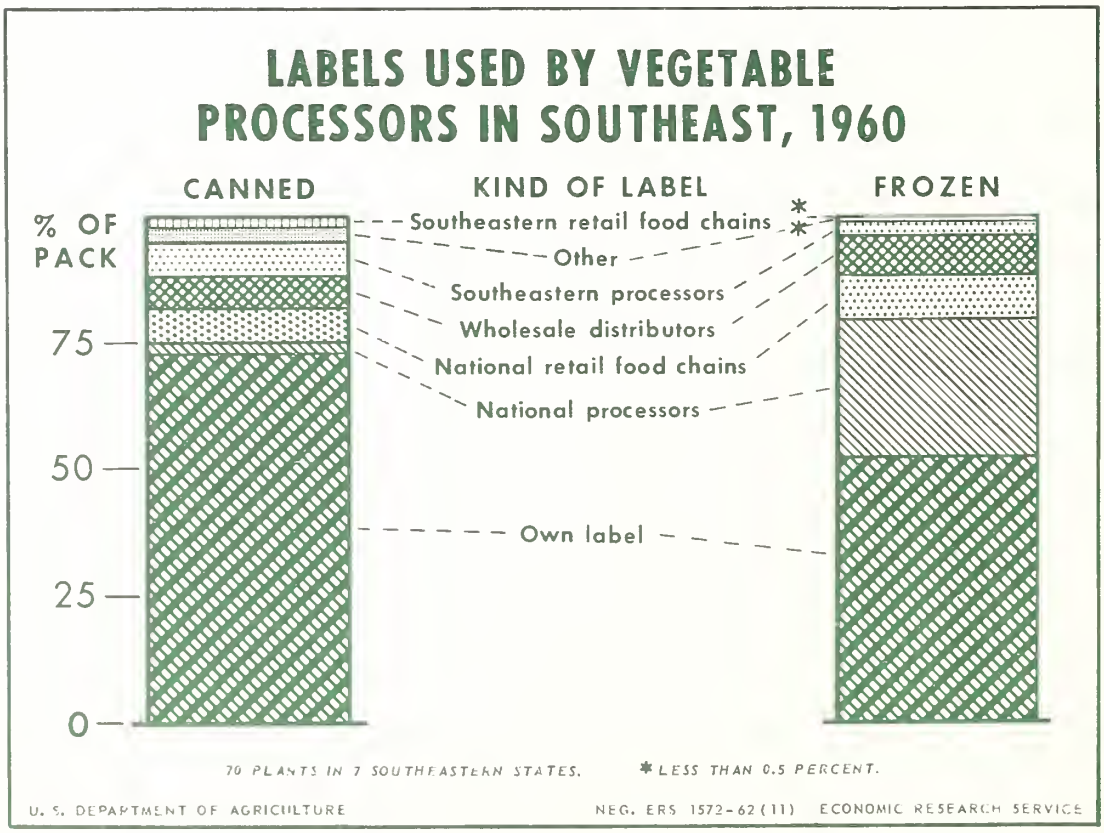

Figure 1

plants already operating in the region to supply their needs for these special vegetables.

The size of canning firms had little effect on labeling practices. About the same percentage of the output of small, medium, and large firms was packed under processors' private labels (table 5). But as size of firms increased, the number of different types of labels used increased.

SALES METHODS

Most of the 1960 southeastern vegetable pack was sold through brokers or commission agents. The next most important sales agency was the parent company of processing plants (figure 2). This was especially true in the freezing industry; for instance, in Tennessee one company controlled and acted as sales agency for four freezing plants. It was not determined whether parent companies used their own sales forces or other sales agencies in selling the pack of subsidiary plants.

Sales methods differed considerably with different sizes of firms (table 6). Small firms relied more heavily on their own sales forces and on brokerage agencies than larger firms. No subsidiary firms were in the small group, but medium firms sold 5 percent of their pack through parent companies and large firms sold 20 percent of their pack in this way.

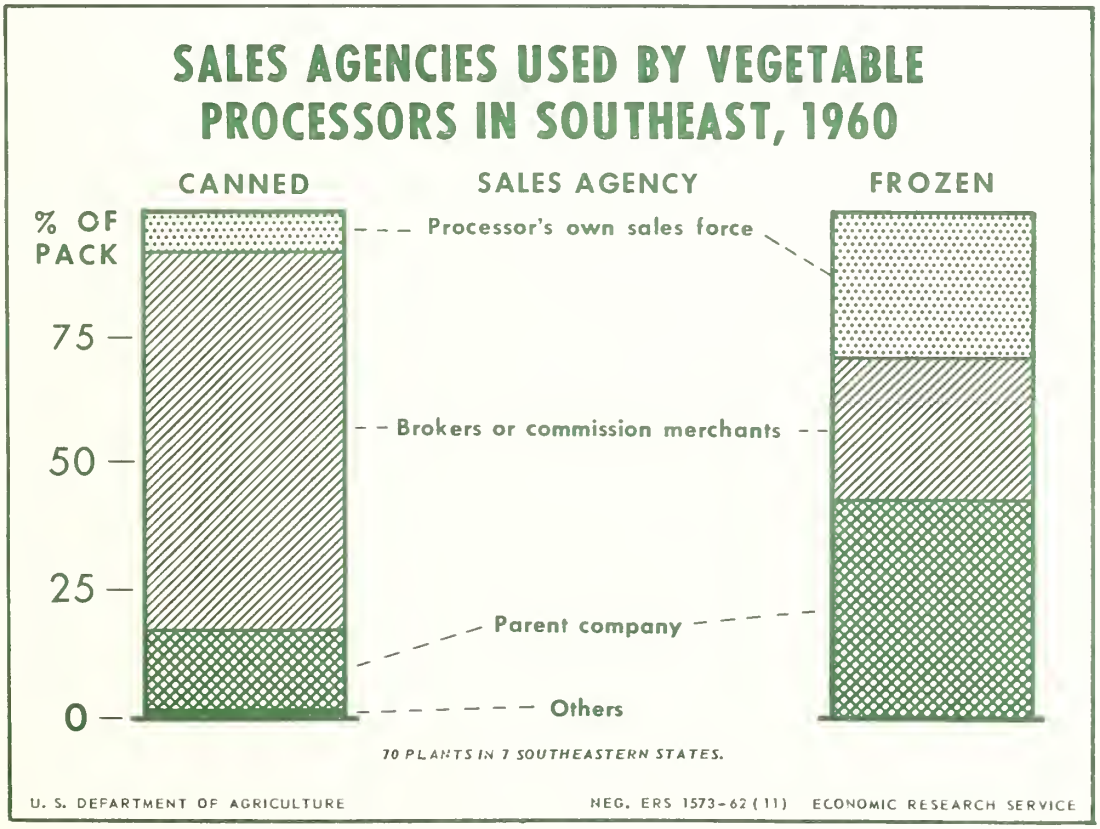

Figure 2

Table 5.--Volume of canned vegetables packed under specified types of labels, by size of firm, 7 Southeastern States, 1960

Type of label	17 Small firms		21 Medium firms		15 Large firms		All sizes (53 firms)	
	1,000 cases	Percent	1,000 cases	Percent	1,000 cases	Percent	1,000 cases	Percent
Own label	277	72	1,583	72	5,921	73	7,781	73
Southeastern processor	42	11	110	5	608	8	760	7
National processor	0	--	0	--	246	2	246	2
National retail food chains	1	1/	200	9	473	6	674	7
Southeastern retail food chains	20	5	118	5	91	1/	229	2
Wholesale distributors	44	12	175	8	450	6	669	6
Other	0	--	10	1	305	4	315	3
All types of label	384	100	2,196	100	8,094	100	10,674	100

1/ Less than 0.5 percent.

Table 6.--Volume of canned vegetables sold through specified types of sales organizations, by size of processing firm, 7 Southeastern States, 1960

Type of sales organization	17 Small firms		21 Medium firms		15 Large firms		All sizes (53 firms)	
	1,000 cases	Percent	1,000 cases	Percent	1,000 cases	Percent	1,000 cases	Percent
Own sales force	47	12	247	11	558	7	852	8
Brokers or commission agents	336	88	1,785	81	5,897	73	8,018	75
Parent company	0	0	104	5	1,596	20	1,700	16
Others	1	1/	60	3	43	1/	104	1
All sales organizations	384	100	2,196	100	8,094	100	10,674	100

1/ Less than 0.5 percent.

AREAS OF SALE

Respondents were asked to estimate the percentage of their 1960 vegetable pack that entered the retail trade in specified regions of the United States. The percentage of the canned and frozen vegetable packs processed in the Southeast for specified regions is shown in figures 3 and 4. The largest part of both canned and frozen vegetables entered the retail trade in the Southeast. 5/ The Northeast, East North Central, and South Central regions offered important markets but little of the pack went to the more distant Western regions.

Most of the subsidiaries of national processing and distribution firms were unable to report the areas in which their pack entered the retail market. For this reason, the distribution pattern of 22 percent of the canned pack and 1 percent of the frozen was undetermined (figures 3 and 4).

There were small variations in the areas to which different sizes of plants shipped their pack (table 7). Large canners had more widely dispersed markets than low-volume plants. However, regardless of the size of the processing firm, most of the southeastern vegetable pack was consumed in the region.

Several economic and sociological factors influence the distribution pattern of southern vegetables. Perhaps the most important of these are competition for

5/ The southeastern distribution area includes Delaware, the District of Columbia, Kentucky, Maryland, Virginia, and West Virginia in addition to the seven States included in the survey of vegetable processors. The geographic divisions of the United States in figures 3 and 4 are those used by the U. S. Bureau of the Census.

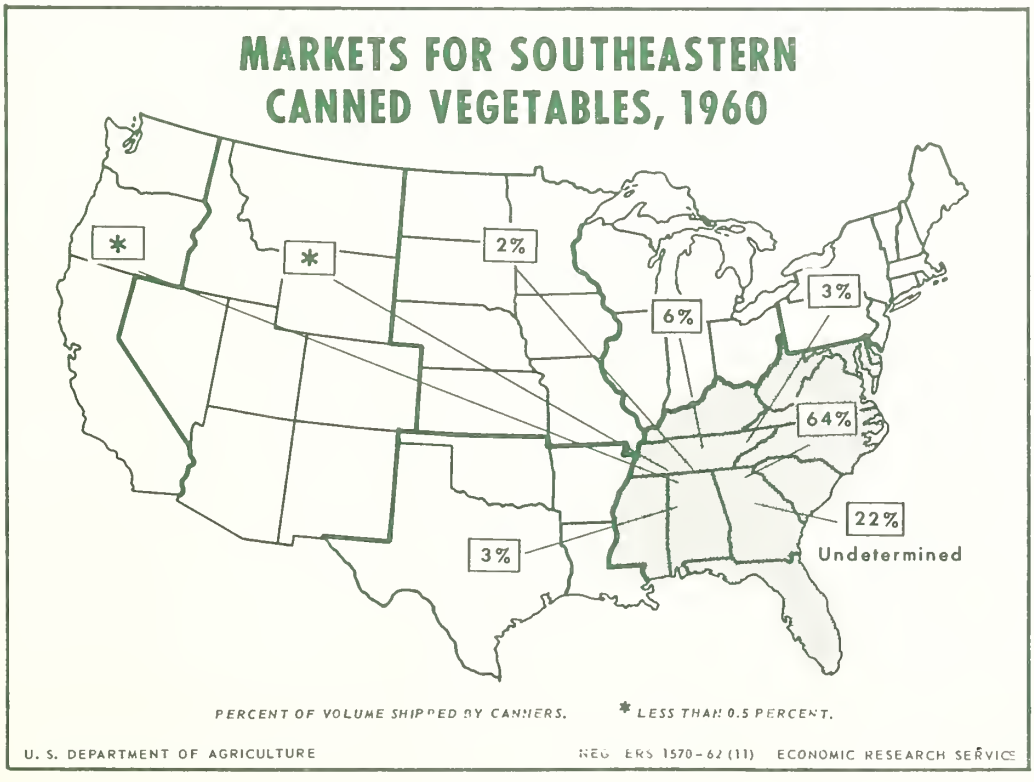

Figure 3

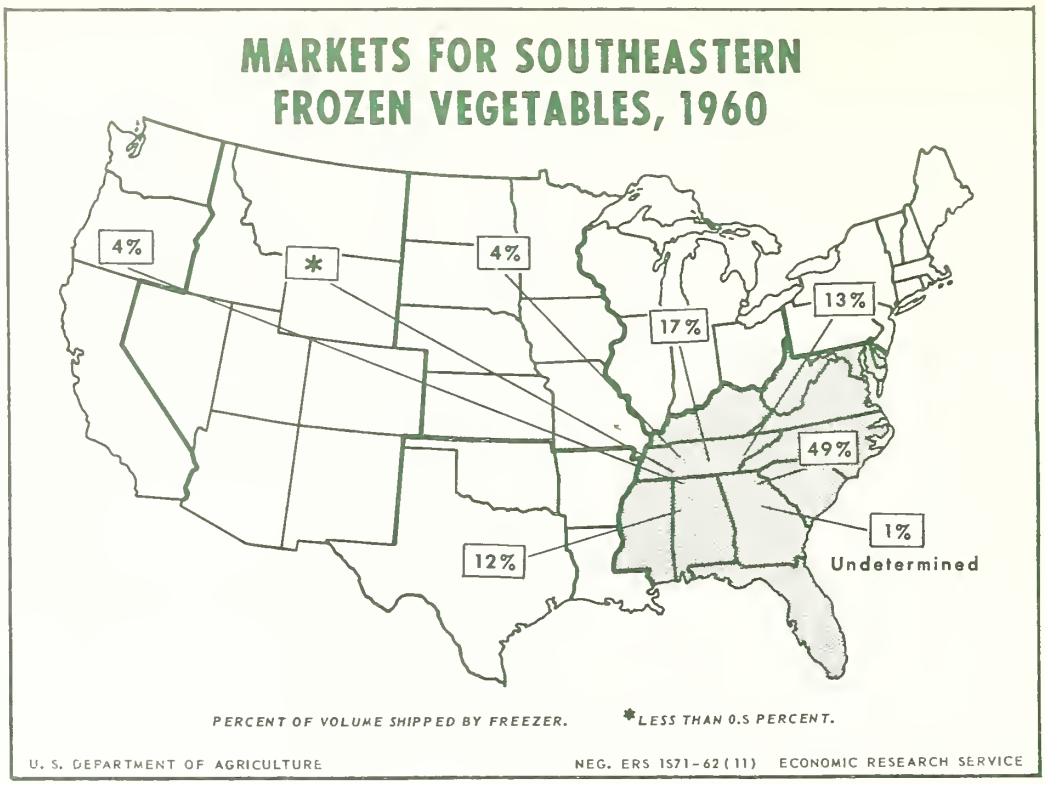

Figure 4

markets and regional differences in consumer preferences for vegetables. Some vegetables processed in the Southeast are not produced in significant commercial quantities in other regions and have little direct competition from identical products; competition arises in the many close-substitute vegetables produced and processed nationally. Collards and turnip greens have not gained wide national markets and offer little competition to spinach in regions other than the South. Blackeye and other southern peas having consumer acceptance in the South are not highly competitive with green peas in the national market. These are results primarily of regional differences in consumer tastes or habits.

Green beans, tomatoes, and potatoes processed in the Southeast face direct competition in southeastern as well as national markets. This competition arises through differences in transportation costs to consuming centers; in production, processing and sales efficiency; and in quality; all of which are ultimately reflected in product prices. These factors create comparative market advantages for some regions. Any attempts to expand markets for southeastern processed vegetables on a national scale must recognize regional differences in consumers' preferences as well as comparative economic advantages.

TYPES OF BUYERS

The types of buyers of the 1960 pack were determined by asking respondents, "to whom was the first sale made when vegetables left the processing plant." This could not be readily determined for some plants which sold through brokers or parent companies.

Table 7.--Volume of canned vegetables processed in the 7 Southeastern States that entered the retail market in specified areas, by size of firm, 1960

Area	17 Small firms		21 Medium firms		15 Large firms		All sizes (53 firms)	
	1,000 cases	Percent	1,000 cases	Percent	1,000 cases	Percent	1,000 cases	Percent
Southeast	325	85	1,947	89	4,474	56	6,746	64
Northeast	13	3	37	2	252	3	302	3
East North Central	33	9	69	3	557	7	659	6
West North Central	0	0	30	1	168	2	198	2
South Central	13	3	52	2	267	3	332	3
Mountain	0	0	0	0	9	1/	9	1/
Pacific	0	0	5	1/	77	1	82	1/
Undetermined 2/	0	0	56	3	2,290	28	2,346	22
All areas	384	100	2,196	100	8,094	100	10,674	100

1/ Less than 0.5 percent.
2/ Includes, primarily, vegetables packed by subsidiary plants and distributed nationally and internationally by parent companies.

Wholesalers and retail chainstores were the largest buyers of processed vegetables, disregarding the large percentage of the canned pack for which buyers were undetermined (figure 5). Few independent food retailers and institutions bought directly from processors.

There was much variation in the dominant types of buyers from different sizes of canners (table 8). The larger firms sold a smaller share of their pack to wholesalers than the smaller firms. The buyers of more than half of the pack of large firms were not determined, so an adequate comparison between the types of buyers patronizing different sizes of firms cannot be made. However, both national and southeastern retail food chains provide important outlets for vegetables processed in the Southeast by firms of all sizes.

CONSIDERATIONS IN MARKETING FINISHED PRODUCTS

Information obtained from processors led to several conclusions regarding trends in marketing practices. Most processors indicated a need to provide a reliable supply of consistently high-quality products to attract and hold large-volume buyers. Frequent, small-lot sales increase the problems and costs of marketing finished products. Large-lot sales and shipments are more desirable.

Responsibility for inventory-holding and warehousing of processed foods has increasingly shifted to processing firms. Buyers generally no longer hold large stocks of processed vegetables in anticipation of future needs, but order for delivery only a few weeks in advance of expected needs. This practice has largely shifted

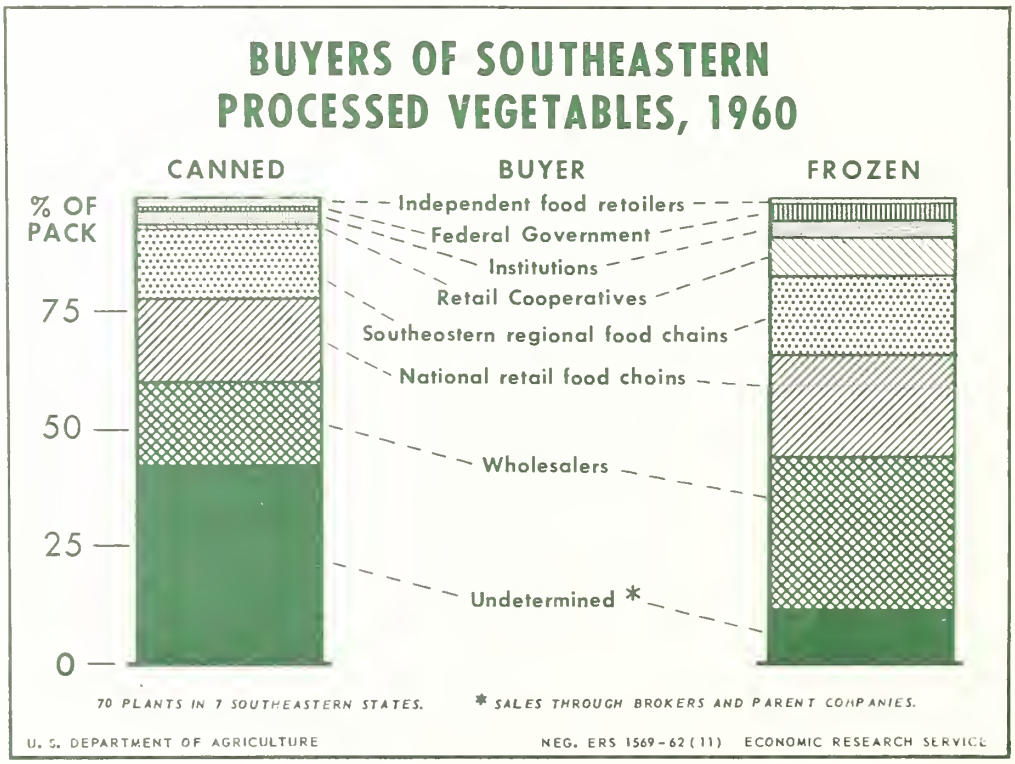

Figure 5

from wholesalers and retail chains to processors the capital requirements for maintaining inventories. This is an important factor in increasing the capital requirements and fixed costs in the processing industry in the Southeast as well as elsewhere.

Price competition appears vigorous among southeastern processors in marketing most products. According to processors, this results largely from the pressures to clear inventories of one season before beginning the following season's operation. This is especially true of small, under-capitalized firms that must sell their inventory so that capital can be released for financing a new season's operations. Several respondents suggested that price cutting by a few processors in efforts to clear stocks rapidly tends to depress the market for the entire industry and to reduce profits.

ADVERTISING PRACTICES

Sales promotion was more prevalent among large processors than small- and medium-size firms. Advertising expenditures were reported by 73 percent of the large firms and 38 percent of the small and medium groups in 1960. The types of sales promotion and advertising media used are shown in table 9. The most common advertising medium used was newspapers, usually as cooperative advertising with retail stores. When processors' brands were featured in chainstore advertisements, the price of products sold to the chain by the processor was reduced as an "advertising discount" to compensate for cooperative advertising.

PROCESSORS' MANAGEMENT PROBLEMS

Respondents were asked to rank four problem areas: (1) securing raw product, (2) labor, (3) financing, and (4) marketing finished product. Respondents were then given a list of more detailed problems under each of the four catagories from which they enumerated three additional problems. Delineation of problems common to firms in the industry appears useful not only to the industry, but also to researchers by suggesting possible areas of future study. Problem areas are identified and discussed in this report. A more complete evaluation of their causes, effects, and solutions is dependent on additional study.

The nature of the problems suggested that the severity of their effect on processing firms would be influenced by firm size. Therefore, the problems reported by vegetable canners are tabulated by size of firm. The number of vegetable freezing plants in the Southeast is too small to allow a similar analysis of the problems encountered.

Canning firms indicated that securing raw product was their most severe problem in 1960 and that marketing finished product, financing, and labor were next in order of importance (table 10). Canners have little trouble in securing adequate labor since the Southeast has an abundant supply of unskilled and semi-skilled labor. Most canners employ, primarily on a seasonal basis, women who are unemployed or employed less than full-time during the remainder of the year. The variation in problems indicated by small, medium, and large firms is shown in tables 10 and 11.

Vegetable freezing firms indicated that financing was the outstanding problem, with marketing finished product and securing raw product next in order of importance. Labor was again the least serious problem encountered.

Table 8.--Sales of canned vegetables processed in the 7 Southeastern States by type of first buyer and size of canning firm, 1960

First buyer	17 Small firms		21 Medium firms		15 Large firms		All sizes (53 firms)	
	1,000 cases	Percent	1,000 cases	Percent	1,000 cases	Percent	1,000 cases	Percent
Wholesalers	228	59	812	37	870	11	1,910	18
National retail food chains	44	11	439	20	1,418	18	1,901	18
Southeastern retail food chains	56	15	485	22	1,022	13	1,563	15
Retailer cooperatives	0	--	21	1	105	1	126	1
Institutions	27	7	43	2	281	3	351	3
Federal Government	11	3	25	1	43	1/	79	1
Independent food retailers	18	5	70	3	78	1	166	2
Other 2/	0	--	301	14	4,277	53	4,578	42
All buyers	384	100	2,196	100	8,094	100	10,674	100

1/ Less than 0.5 percent.
2/ Includes, primarily, sales to parent companies for resale and undetermined buyers.

Table 9.--Advertising media used by 30 vegetable processors, 7 Southeastern States, 1960

Advertising media	Alabama	Florida	Georgia	Mississippi	North Carolina	South Carolina	Tennessee	Total, Southeastern States
	Firms	Firms	Firms	Firms	Firms	Firms	Firms	Firms
Newspapers	1	4	7	1	0	0	5	18
Trade magazines and papers	0	2	5	0	1	0	6	14
Radio	0	2	3	1	0	1	1	8
Television	0	0	2	0	0	0	1	3
Other 1/	1	3	3	0	3	0	3	13

1/ Includes billboards, retail bulletins, store displays, food shows, and introductory allowances.

Table 10.--Number of vegetable canners specifying selected management problems, by size of firm, 7 Southeastern States, 1960 1/

Problem	Small		Medium		Large		Average
	Firms	Percent	Firms	Percent	Firms	Percent	Percent
Securing raw product	15	88	15	71	12	80	79
Marketing finished product	11	65	13	62	9	60	62
Financing	10	59	10	48	7	47	51
Labor	8	47	9	43	9	60	49

1/ If firms did not select problem as being 1st, 2nd, or 3rd in importance, it was assumed to be no serious problem.

Table 11.--Number of vegetable canners specifying selected management problems as 1st, 2nd, or 3rd in importance, 7 Southeastern States, 1960

Problem	1st			2nd			3rd		
	Small	Medium	Large	Small	Medium	Large	Small	Medium	Large
	Firms	Firms	Firms	Firms	Firms	Firms	Firms	Firms	Firms
Securing raw product	6	7	9	7	6	1	2	2	2
Marketing finished product	4	5	5	3	2	3	4	6	1
Financing	4	4	1	3	5	2	3	1	4
Labor	2	4	0	2	1	7	4	4	2
No selection	1	1	0	2	7	2	4	8	6
Total	17	21	15	17	21	15	17	21	15

Processors were asked to further define their problems by ranking the subproblems listed in tables 12 through 15. Each processor was requested to rank only those subproblems associated with the problems he had previously ranked first, second, or third in importance.

Problems in Securing Raw Product

Securing raw product was listed by 47 of the 61 firms as their first, second, or third most important problem. Additional information on this problem revealed that the greatest difficulty was in obtaining raw vegetables of desired quality (table 12). Only 7 of the 47 firms indicated that the quality of vegetables secured was no problem to them. Their second most serious problem was the difficulty of obtaining vegetables in sufficient quantity. These problems are directly related to deficiencies in the production of vegetables for processing and suggest that future progress in the southeastern industry demands increased emphasis on the production of a larger volume of high-quality vegetables for processing.

Vegetable production in much of the Southeast is characterized by small, scattered acreages which are often secondary to production of other cash crops and livestock and are not conducive to the production of high-quality vegetables. Production units are often too small to take advantage of quality-improving innovations. Most processing firms in the area are too small to justify hiring field specialists to work with farmers in promoting higher quality production.

It is generally accepted that a sufficiently high price will, in the long run, encourage production of any desired supply of a commodity. Farmers attempting to maximize net returns will allocate productive resources to the most profitable available enterprises. Where vegetables are produced, the price received for them must, in an economically rational production process, be high enough to provide a net return equal to or greater than that derived from the production of other crops or livestock. If it were possible for processors in the Southeast to pay such a price for vegetables, a sufficient volume of vegetables would probably be produced.

Table 12.--Vegetable processors' ranking of problems of securing raw product, 7 Southeastern States, 1960

Problems of securing raw product	Rank of problem importance			No problem
	1st	2nd	3rd	
	Firms	Firms	Firms	Firms
Of desired quality	14	19	7	7
In sufficient quantity	13	14	5	15
At desired time of season	9	5	8	25
In close proximity to plant	4	4	8	31
Regulated deliveries to plant	4	3	8	32
Other	2	0	0	45
No selection	1	2	11	--
Total replies	47	47	47	--

But neither processors nor farmers operate in an economic vacuum. The prices processors pay for raw product are limited by their processing costs and by competition in the processed vegetable market, both of which establish the prices at which their finished product can be profitably sold. In addition, prices paid by processors are necessarily influenced by farm production costs and competition of fresh markets. Fresh market competition is especially significant in the Southeast where most vegetables are produced for this outlet, and few producer-processor contracts exist.

Problems in Marketing Finished Product

Processors indicated that price competition from other processors was the most difficult marketing problem (table 13). Only 3 of the 41 firms having marketing problems noted that price competition was not a problem. This further substantiates the competitive nature of the southeastern industry, especially since the Southeast provides the principal market for all processors in the area. This competition is not limited to other southeastern processors, however, but includes processors throughout the country who process either identical or substitute products.

Another important problem was that of holding inventories of canned and frozen vegetables. The effect of this problem on firms' capital requirements was noted above. The high costs of shipping finished product to buyers was considered about as important as holding inventory.

Table 13.--Vegetable processors' ranking of problems of marketing finished product, 7 Southeastern States, 1960

Problems of marketing finished product	Rank of problem importance			No problem
	1st	2nd	3rd	
	Firms	Firms	Firms	Firms
Price competition from other processors	30	3	5	3
Build-up of inventory	7	9	6	19
Shipping costs	1	11	10	19
Selling cost -brokerage fees, commissions, advertising, etc.	3	8	5	25
No selection	0	10	15	--
Total replies	41	41	41	--

Financing Problems

Financing was selected by 34 of the 61 firms contacted as one of their three major problems. Holding of inventory was noted by 25 of these firms as the first, second, or third most important factor in creating financial pressures in their businesses (table 14). While inventory stocks are commonly offered as collateral for credit, the capital committed to stocks on hand is not available for reinvestment

Table 14.--Vegetable processors' ranking of problems of financing, 7 Southeastern States, 1960

Problems of financing	Rank of problem importance			No problem
	1st	2nd	3rd	
	Firms	Firms	Firms	Firms
Holding of inventory	7	11	7	9
Operating capital	14	3	3	14
Seasonal requirements for capital	5	6	7	16
Expansion and modernization	5	7	5	17
Adequate credit source	2	3	3	26
Tax structure	1	0	0	33
No selection	0	4	9	--
Total replies	34	34	34	--

until stocks are sold. This places a limitation on the amount of operating capital available since loans seldom can be negotiated for the full value of stock holdings. Financial problems are further complicated by the requirement for inventory warehouse storage. This is especially burdensome for freezing firms which require subzero storage facilities.

Other important problems were concerned with operating capital and seasonal requirements for capital. These are closely related since the greatest demands for operating capital occur during the peak canning and freezing seasons. Processors require greater flexibility in their source of capital than many other industries whose operations are spread more uniformly through the year.

Capital for expanding and modernizing plants was the primary concern of several firms. Demands for operating capital often are so great that capital accumulation for expansion or modernization is difficult. This was the primary motivation for some firms in merging with or becoming a subsidiary of other, better capitalized firms. However, most of the firms contacted indicated adequate credit sources.

Labor Problems

Labor was ranked as the least difficult management problem, although 26 of the 61 firms expressed concern with labor problems (table 15). The most severe of these was keeping full-time key employees fully employed. This is a problem generated by the seasonal nature of processing operations and will likely be overcome only by extending the length of the processing season. Other major problems were the shortage of skilled and supervisory personnel and the pressures of minimum wage and other labor legislation.

Table 15.--Vegetable processors' ranking of problems of labor, 7 Southeastern States, 1960

Labor problems	Rank of problem importance			No problem
	1st	2nd	3rd	
	Firms	Firms	Firms	Firms
Keeping full-time key employees fully employed	7	8	3	8
Obtaining sufficient skilled and supervisory personnel	7	6	4	9
Minimum wage and other labor legislation	7	2	4	13
Obtaining sufficient personnel in periods of peak requirements	5	4	4	13
Labor unions	0	0	0	26
No selection	0	6	11	--
Total replies	26	26	26	--

IMPLICATIONS

The current program of research to evaluate processing as an outlet for vegetables in the Southeast is only partially complete. Other phases of the work will include an evaluation of the processing capacity of the existing industry, the financial structure of the industry, and an analysis of the market demand for selected southeastern processed vegetables. This is the last of three reports describing present industry operations. It appears timely, therefore, to assess the outlook for processing on the basis of available research results, observations of the southeastern vegetable industry, and general information obtained from processors throughout the region. Several limitations on production, processing, and marketing are suggested, as well as possible strengths in the future of processing. Specific inferences must, at this point, be contingent upon completion of additional research.

The potential of processing in the region is influenced by regional production potentials. Low yields per acre of many vegetables are one of the South's great competitive disadvantages. Oregon and California produced 7 to 9 tons of green beans per acre in 1960 compared to 1 ton in South Carolina and 2 tons in Tennessee and Florida. California, Iowa, Delaware, and Ohio averaged over 16 tons of tomatoes per acre in 1960 compared to 7.2 tons in Florida and 2 tons in South Carolina. 6/ Areas that have the most highly developed processing industries are those having extensive production with high yields. The Southeast has only a few such areas.

A great deterrent to efficient processing is low-volume and part-time seasonal operation of plants. Few plants in the Southeast operate more than 2 to 4 months each year. Processors are apparently aware of the importance of lengthening the processing season and in packing a larger number of products so they can use their

6/ U. S. Department of Agriculture, Crop Reporting Board. Vegetables - Processing, 1960 Annual Summary, December, 1960.

facilities more efficiently. The climate of the South provides processors excellent opportunities for extending their operating season. Processors could possibly add several weeks to the processing season for certain vegetables by extending their procurement areas to adjacent States. However, perishability of products, transportation costs, and cost-price relationships establish limits on practical procurement areas. Additional vegetable lines might provide a longer processing season. This has been done in some plants by adding storable raw products such as beans with pork, and rutabagas.

Another limitation to processing in the region is the dominance of production for fresh market. Processors rarely can compete with fresh market prices in buying raw product where favorable opportunities for fresh markets exist. Grower anticipation of fresh market prices higher than prices paid by processors apparently discourages both growers and processors in developing contract production. More research is needed to determine the relationship of fresh market prices to availability of raw product for processing.

There are strengths in the industry which could foster future economic growth. Several large-scale national food processors have established subsidiary vegetable processing plants in the Southeast. This recognition of processing potential has real economic implications for the vegetable industry of the region. Many vegetables grown in the South, such as pimientos, southern peas, okra, and several leafy greens, are not currently produced in volume in any other section of the country. In their efforts to provide customers with a complete line of processed vegetables and to expand their markets, national processors and distributors rely on southern processing as a source of many items. The South must place increasing emphasis on higher yields and larger scale production of high quality vegetables to strengthen its position as a supplier of these vegetables for processing. The stability of processing depends on a source of vegetable supplies reliable both in volume and in quality.

Another strength is the dynamics of population. As the population increases in the Nation and in the Southeast, demand for processed vegetables likely will increase. Between 1950 and 1960 the rate of population growth in the South was exceeded only by that of the West. In the 1950's, population in the South increased 16.5 percent and in the Nation, 18.5 percent. Migration is also a factor, since people tend to retain regional food habits after moving to other regions. Markets are expanding for many special southern vegetables in northern cities as a result of migration, particularly of Negroes.

Many economic factors will influence the future maintenance, expansion, or contraction of the present southeastern vegetable processing industry. Sound decisions require objective study and appraisal of these factors by the industry, and by private and public agencies.

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